# CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST PREPARATION

| | |
|---|---|
| 1. Aircraft Documents* …… | Checked |
| 2. Weather …..…….. | Suitable |
| 3. Baggage …… | Stowed |
| 4. Weight & C of G…….. | Within Limits |
| 5. Navigation …… | Planned |
| 6. Navigation Equipment ……. | On Board |
| 7. Performance & Range …….. | Computed & Safe |

***Documents to be Carried :** C of R, C of A, ARC, CRS, Noise Certificate, Flight Crew license, JLB, Operations Manual, MEL, POH, Cockpit and Emergency Check List, Aeroplane search procedure checklist, G-1000 Cockpit Reference guide, Emergency and Safety Equipment Layout, Route guides, Area Map, Weight Schedule, Load and Trim Sheet.
**Charter Operations :** Air Operator's Permit & Passenger Manifest.

Around aircraft no fuel / oil spillage. Chocks & fire Extinguisher in position.
Area behind aircraft & taxi path clear. Remove pitot cover.

## CABIN

| | |
|---|---|
| 1. Pitot Cover……. | REMOVED |
| 2. Control Wheel Lock ……. | REMOVED |
| 3. Parking Brake …… | SET |
| 4. Engine Master …….. | OFF |
| 5. AVIONICS BUS 1&2 …….. | OFF |
| 6. BATTERY Switch …… | ON |
| 7. PFD …….. | ON (Wait for PFD to Initialise) |
| 8. FUEL QTY(L & R) ……... | CHECK |
| 9. LOW FUEL (L & R) Annunciators …….. | OFF |
| 10. LOW Vacuum Annunciator …….. | ON |
| 11. FUEL Temp …….. | CHECK |
| 12. "Water Level" LIGHT …….. | OFF |
| 13. Engine Hrs & Hobbs …… | NOTED |
| 14. AVIONICS BUS 1 …….. | ON ( Front Avionics Fan ON ) |
| 15. AVIONICS BUS 1 …….. | OFF |
| 16. AVIONICS BUS 2 …….. | ON ( Rear Avionics Fan ON ) |
| 17. AVIONICS BUS 2 …….. | OFF |
| 18. Flaps……. | FULLY EXTENDED |
| 19. PITOT Heat Switch ……. | OFF |
| 20. PITOT Heat Switch ……. | ON for 30 secs then OFF |
| 21. LOW Volts Annunciator …… | ON( Not Shown ) |
| 22. BATTERY Switch …….. | OFF |
| 23. ALT Static AIR Valve ……. | OFF |
| 24. Cabin Heat & Cabin Air……. | OFF |
| 25. Elevator Trim …… | Set for Take-Off |
| 26. FUEL Selector Valve …… | BOTH |
| 27. FUEL Shut-off Valve …… | PUSH FULL IN |
| 28. Fire Extinguisher …… | CHECK Pointer in Green |

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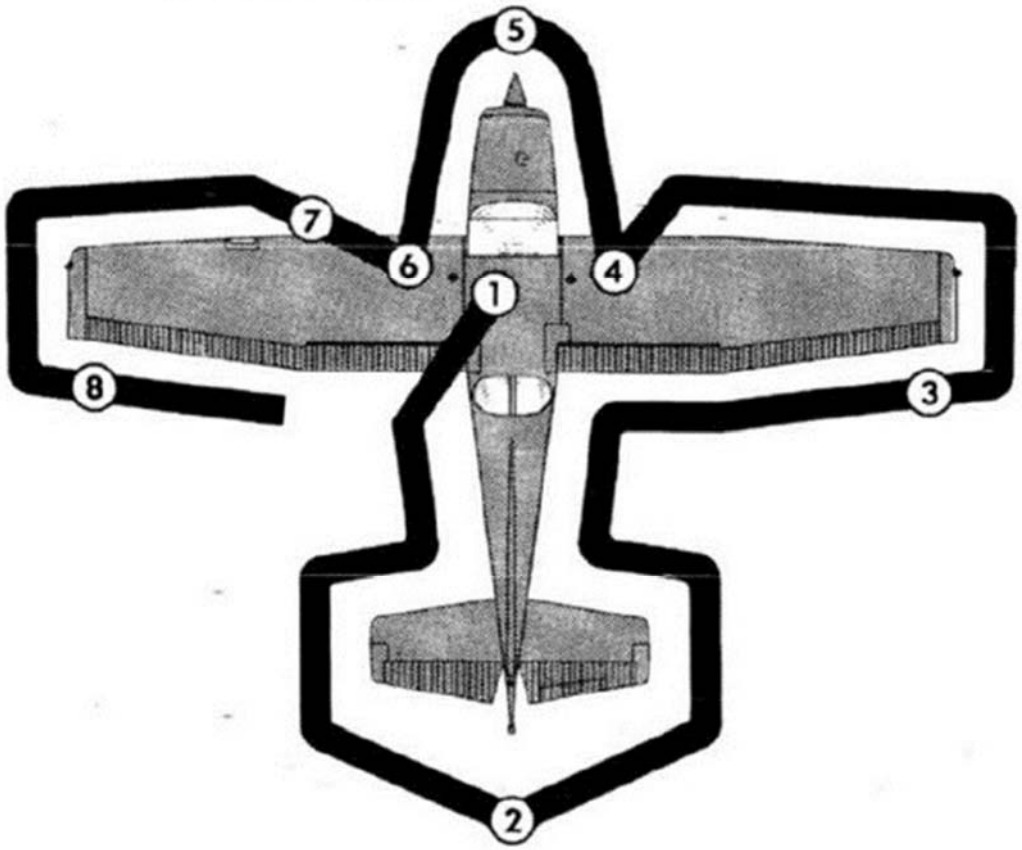
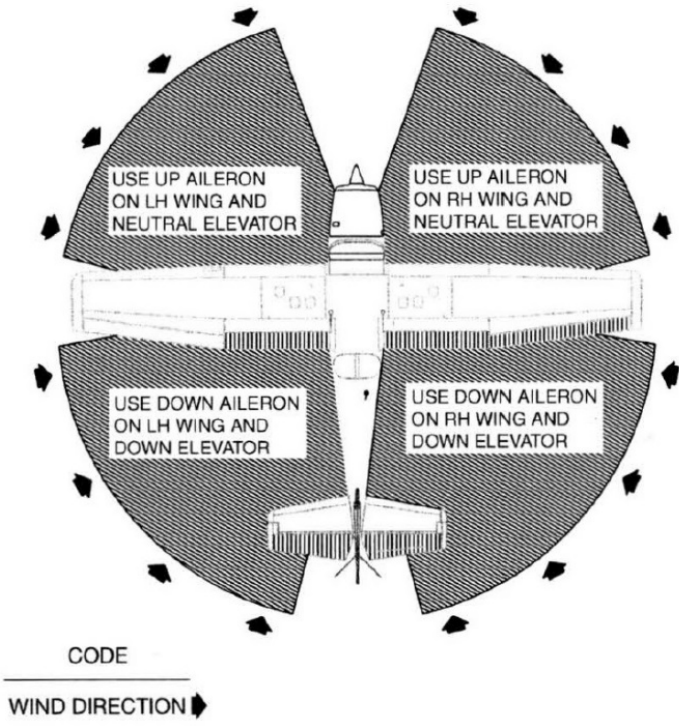
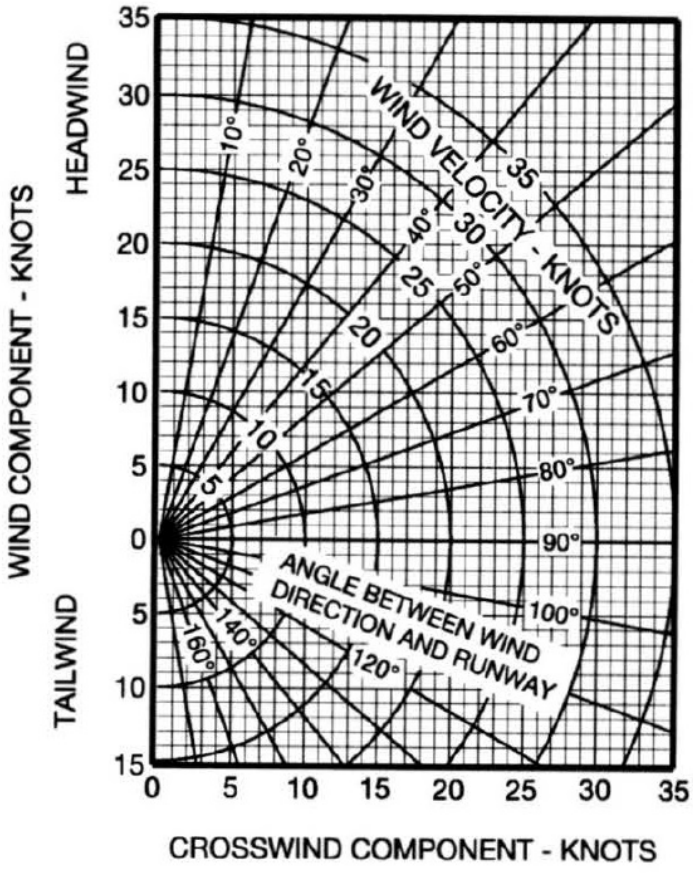
## CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST




### TAXIING DIAGRAM




### CROSSWIND COMPONENT



# CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST
# EXTERNAL CHECKS

## EMPENNAGE

| | |
|---|---|
| 1. Baggage Door …….. | Check Locked |
| 2. Tail Tie Down …….. | Disconnect |
| 3. Elevator …… | Check Freedom of Movement |
| 4. Elevator Trim Tab …… | Check for Security |
| 5. Antennas …… | Check for Security |

## RIGHT WING Trailing Edge

| | |
|---|---|
| 6. Flap …… | Check for Security & Condition |
| 7. Aileron …… | Check Freedom of Movement |

## RIGHT WING

| | |
|---|---|
| 8. Wing Tie Down …….. | Disconnect Check |
| 9. Right Tyre …….. | Check Cut, Creep, Pressure |
| 10. Fuel Drains ……. | Sample for Water & Sediments |
| 11. Fuel Quantity ……. | Check visually ≤ fuel filler marking |
| 12. Fuel Filler Cap …… | Check Security, Vent Clear |

## NOSE

| | |
|---|---|
| 13. Reservoir Tank Drain ……. | Sample for Water & Sediments |
| 14. Fuel Strainer Drain ( Below Fuselage )... | Sample for Water & Sediments |
| 15. Engine Air & Cooling Inlets ……... | Clear of Obstructions |
| 16. Propeller & Spinner …… | Check for Cuts, Nicks, Security |
| 17. Air Filter ……. | Check for Dust & Blockage |
| 18. Gearbox oil level …… | Check Glass (Pale & Bubble) |
| 19. Nosewheel Strut ……. | Strut 3.5”, No leaks |
| 20. Nose Tyre …….. | Check Cut, Creep, Pressure |
| 21. Engine Oil …….. | Check Dipstick ( 5-6 Litres ) |
| 22. Static Source …….. | Check Clear |

## LEFT WING

| | |
|---|---|
| 23. Fresh Air Inlet ……. | Check condition |
| 24. Fuel Quantity ……... | Check visually, ≤ fuel filler marking |
| 25. Fuel Filler Cap ……. | Check Security, Vent Clear |
| 26. Fuel Drains ……... | Sample for Water & Sediments |
| 27. Left Tyre …….. | Check Cut, Creep, Pressure |

## LEFT WING Leading Edge

| | |
|---|---|
| 28. Fuel Vent …… | Check for Blockage |
| 29. Stall Warning ……. | Check for Blockage |
| 30. Wing Tie Down ……. | Disconnect |
| 31. Landing / Taxi Lights …… | Check for Security |

## LEFT WING Trailing Edge

| | |
|---|---|
| 32. Aileron …… | Check Freedom of Movement |
| 33. Flap ……. | Check for Security & Condition |

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## CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST

### BEFORE START

1. Pre-flight……..……..…..COMPLETE
2. Passenger Briefing……..… COMPLETE
3. Seats & Seat Belts…..ADJUST & SECURE
4. Brakes……..TEST & SET
5. Circuit Breakers……...……..CHECK IN
6. Electrical Equipment…… ...OFF
7. Avionics BUS 1 & BUS 2……OFF
8. Alternator…..…….…….. ON
9. St By Batt……..….TEST 20” Green Lt ON
10. St By Batt……..…ARM Verify PFD ON
11. BUS E Volts……..……..Min 24 VOLTS
12. BUS M Volts…….... Below 1.5 VOLTS
13. BATT S Amps……CHECK -Ve Amps
14. St By Batt Annunciator ……SHOWN
15. Request START UP…….…...….Call ATC
16. HEADSET……REMOVE
17. Propeller Area……..…….. CLEAR
18. Battery……..…….…… ON
19. Beacon Light…….……..…….... ON
20. NAV Light……..……..…..…...ON
21. Fuel Selector Valve.....……. BOTH
22. Fuel Shut Off Valve..…..……..Push Full IN
23. Alternate Air Door…..….....…CLOSED
24. Thrust Lever..……..…Full & Free, IDLE
25. Load Display.....Check 0% at Prop Rpm 0

### ENGINE START (BATTERY ONLY)

1. Thrust Lever……..……..……IDLE
2. Area Aircraft / Prop ……..…..…CLEAR
3. Engine Master……..……..…..ON
4. Glow Light……...…...…EXTINGUISHES
5. Fuel Pump……..……..…...ON
6. Starter..……ENGAGE(500RPM)
7. OIL Pressure……within 3 Sec MIN 1 BAR
8. Fuel Pump……..……..OFF
9. AMPS Batt M & Batt S.....CHECK +Ve
10. Volts……..……..GREEN
11. LOW VOLTS Annunciator..……....OFF
12. FADEC backup Battery test
    a. Alt OFF……..…ENG OP NORMAL
    b. Batt OFF 10 sec ENG OP NORMAL FADEC RED LIGHTS OFF
    c. Battery…… ……..…ON
    d. Alternator…… ……ON
13. Alternator Warning light……...… ...OFF
14. TEST……... COMPLETE
15. CED Test Knob.....PRESS, LIGHT OFF
16. Avionics BUS 1 & BUS 2……..…ON
17. Regulators……..……..……SET
18. AMPS Batt M & Batt S.....CHECK +Ve
19. Volts……GREEN
20. FLAPS……..RETRACT FULLY
21. LOW VOLTS Annunciator…...……....OFF
22. COMM 02 Only..……...…… .VOL 71%
23. Speaker…..…….……...ON
24. NAV Frequencies……...……..SET
25. MFD…...…….……..ON, Dhana WPT SET
26. G1000……..FLIGHT PLAN as Req
27. MENU……....Manual Brightness to 1%

### WARM UP

1. 890 RPM……..……2MIN
2. 1400 RPM till….....OT 50°C,CT 60°C

### TAXI

1. Taxi Permission……..... .....RECEIVED
2. Altimeters(PFD Baro & St By)….SET QNH
3. Chocks...……....WAIVE OFF
4. Taxi, Landing light……..……ON
5. Brakes……...……. ……TEST
6. Instruments……..…..CHECK in TURNS

   **Left/Right Turn :-** Compass & HIS Decrease / Increase in Hdg, A/H No Bank TSI Skidding Turn

### BEFORE TAKE-OFF

1. Taxi, Landing light…...……OFF
2. Parking Brakes…..……..… ……SET
3. Seat & Seat Belts...…ERECT & CORRECT
4. Cabin Doors…….....CLOSED & LOCKED
5. Flight Controls…….....FREE & CORRECT
6. Flight Instruments ( PFD )..... No Red Xs
7. Altimeters ( PFD Baro & St By )……...SET
8. G1000 ALT SEL……..…..... SET
9. Stand By Flt Instruments……....CHECK
10. Fuel Quantity (L & R)……..……CHECK
11. Fuel Selector……..……BOTH
12. Trim……..……SET for TAKE-OFF

    **FADEC & PROP Function Check**
13. Thrust Lever……...……...IDLE
14. FADEC Lights……..…..……BOTH OFF
15. FADEC Test button……. PRESS & HOLD
16. FADEC Lights……. BOTH ON, RPM INC
17. FADEC Light……...……..ONLY B ON
18. PROP Control Excited...…….....RPM DEC
19. FADEC Light.....ONLY A ON, RPM INC
20. PROP Control Excited…...…....RPM DEC
21. FADEC A…..……...……LIGHT OFF
22. RPM Idle……...TEST COMPLETE
23. FADEC Button……...…RELEASE
24. Thrust Lever……...FULL
25. LOAD DISPLAY……..…MIN 94%
26. RPM……..2240 – 2300

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## CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST

27. Thrust Lever……..……...IDLE
28. Thrust Lever friction...……..ADJUST
29. Vacuum……...GREEN
30. Amps / Volts……...GREEN
31. EIS, CED, AED……..…GREEN
32. Annunciators ……All OFF
33. COMM 01 Only..……VOL 71%
34. SPEAKER……OFF
35. NAV Frequencies..……VERIFY
36. G1000 FLT PLAN…..…… ……CHECK
37. CDI Softkey…..……SELECT NAV Source
38. XPDR……...2000
39. Cabin Power 12V Switch……..OFF
40. Flaps(Check Visually)...……10°
41. Cabin Windows…...CLOSED & LOCKED
42. Take-Off Brief……COMPLETE
43. Landing & Taxi lights……ON

**LINE UP (Memory Item)**

1. Line Up Permission……...Received
2. Strobe Lights……...ON
3. Approach Path & Runway……...Clear
4. Windsock……Check

Enter Runway & Line Up, Nose Wheel straight & along the Centre Line.

**TAKE-OFF (Memory Item)**

1. Take-Off Permission……Received
2. Departure Brief……...Given
3. Fuel Pump……..……ON
4. Landing light……..…ON
5. Hold Aircraft on Brakes……..RPM 1800
6. EIS, CED & AED……GREEN
7. Alternator Wx light..…….……OFF
8. Take-Off Path Clear…….Release Brakes
9. FULL POWER, 55 Kts……Get Airborne

**AFTER TAKE-OFF (Memory Item)**

1. Safely Airborne……..…Brakes ON & OFF
2. 200 Ft Electrical Fuel Pump, LL……...OFF
3. 300 Ft….. +Ve ROC, SP> 65 kts, Flaps UP

**CLIMB (Memory Item)**

1. Speed……...80 Kts($V_y$)
2. Thrust Lever……...FULL
3. CED & AED……GREEN
4. Clearing Turns……...…..Every 1000ft

**CRUISE (Memory Item)**

**C ---- C**ompass -- Check Heading
**L ---- L**og --Made
**E ---- E**ngine – EIS, CED, AED -- Monitor
Fuel-- Sufficient, Temp Check
FADEC Lights -- Monitor
**A ---- A**ltimeter -- Set
**A**mmeters -- Charging
**A**lternator Wx Lt -- OFF
**A**nnunciators -- OFF
**R ---- R**adios – Comm & Nav Freq SET

**HASELL CHECKS (Memory Item)**

**H -- H**eight - 5000 Ft(Sufficient for Recovery)
**A -- A**irframe - Clean or Flaps - As Reqd
**S -- S**ecurity - No Loose Articles
- Seatbelts Secure
**E -- E**ngine - EIS, CED & AED -- GREEN
FADEC Lights - Monitor
Fuel - Sufficient, temp & flow
**L -- L**ocation - Allotted Training Area
- Orientation Point
**L – L**OOKOUT. Clear of
**C** – Clouds
**H** – High Terrain
**A** – Aircraft
**P** – Populated & Prohibited Area

**LOOKOUT** Checks can be done in a 180° Turn OR in Two 90° Turns

**REJOIN CHECKS (Memory Item)**

**B -- B**riefing- Re-join briefing done
**R -- R**adio - Radio NAV Aids - SET
Rejoin Permission - Received
**I -- I**nstruments - Altimeter & Baro -QNH Set
Ammeters - Charging
Alt Wx Light - OFF
Annunciators - OFF
**E -- E**ngine - CED & AED – CHECK
FADEC Lights - Monitor
**F -- F**uel - Contents, Temp & Flow
Selector - Both

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## CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST

**PRE- LANDING (Memory Item)**

1. EIS, CED, AED……...CHECK
2. FLT Instruments……..Check QNH set
3. Flaps……10°
4. Fuel Selector…….Both
5. Brakes……On/Off
6. Seat Belts……...Secure

**BASE or LONG FINAL(Memory Item)**

1. LL & Fuel pump…….……ON
2. Flaps……20°
3. Speed……..……75Kts

**FINAL (Memory Item)**

1. Landing Clearance…….Received
2. Flaps…..……As Required
3. Speed……..……70Kts

**AFTER LANDING (Memory Item)**

1. Flaps……UP
2. Fuel Pump…….OFF
3. XPDR…..……2000
4. Non-Essential Electrics…….OFF
5. Thrust Lever Friction……Loosen

**ENGINE SHUT DOWN**

1. Parking Brake……SET
2. Thrust Lever……IDLE
3. Electrical Eqpt……...OFF
4. Avionics BUS 1 & BUS 2…….OFF
5. Engine Master……OFF
6. BATTERY Switch……OFF
7. St By Batt……..OFF
8. Fuel Selector……Left/Right
9. Engine Hrs & Hobbs……...Noted

**HAT Check**

**H** - Heading

**A** - Altitude

**T** - Timer

**5T Check**

**T** - Twist

**T** - Turn

**T** - Timer

**T** - Thrust

**T** - Talk

**SHORAT**

S - Select Attitude

Ho - Hold Attitude

R - Refer Performance Instruments

A - Adjust Attitude

T - Trim

# CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST

## ENGINE FAILURE AFTER TAKE-OFF

1. Airspeed……....65/60 Kts (flaps Up/Down)
2. Fuel Shut-off Valve……..…….CLOSED
3. Engine Master…..……..……OFF
4. Wing flaps……..AS REQUIRED
5. Alternator and Battery……..……OFF

## ENGINE FAILURE DURING FLIGHT

1. Fuel Shut-off Valve……...PUSH FULL IN
2. Fuel Selector……..BOTH
3. Electrical Fuel Pump…….…..ON
4. Engine Parameters……...CHECK
5. If normal……Continue the Flight
6. Land……..As soon as Practical

## RESTART AFTER ENGINE FAILURE

1. Airspeed…….... 65 to 85 Kts (max 100 Kts)
2. Fuel Shut-off Valve……...Push Full In
3. Fuel Selector……..BOTH
4. Electrical Fuel Pump……...ON
5. Thrust Lever……IDLE
6. Flight can be continued, However
7. Engine Master……..OFF and then ON
8. If prop does not turn…….Stater ON
9. Thrust Full..……Check Engine Parameters

## ENGINE FIRE WHILE STARTING

1. Engine Master……..……..OFF
2. Fuel Shut-off Valve……...CLOSED
3. Electrical Fuel Pump……OFF
4. Batt Master……....OFF
5. EXTINGUISH the FIRE

## ENGINE FIRE IN FLIGHT

1. Engine Master…….... OFF
2. Fuel Shut-off Valve……..….CLOSED
3. Electrical Fuel Pump……OFF
4. Battery……...OFF
5. Cabin heat & ventilation……..CLOSED
6. Glide……..65 Kts
7. Emergency landing……... CARRY OUT

## ELECTRICAL FIRE IN FLIGHT

1. STBY BATT Switch……OFF
2. Avionics Master……OFF
3. Air Nozzles, Heat & Ventilation…..….OFF
4. Fire Extinguisher……..ACTIVATE
5. All Electricals (Except Alt, Bat & Engine Master)……...OFF
6. If fire persists.....….BATT & ALT OFF
7. Air Nozzles, Heat & Vent……..OPEN
8. Circuit Breaker……CHECK
9. If Open……..…DO NOT RESET

If the fire has been extinguished:

10. STBY BATT Switch……...ON
11. Avionics Master……..ON
12. Elect Equipment.…ON as reqd, 1 at a Time

## ONE FADEC LIGHT FLASHING

1. FADEC Test knob……...Press at least 2 sec
2. FADEC light……Extinguished Continue Flight Normally
3. FADEC light……...Steady Illuminated

a. Observe……..Other FADEC light
b. Land……As Soon As Practical
c. Select Speed to Avoid Eng Over Speed

## BOTH FADEC LIGHT FLASHING

1. FADEC Test knob…..… Press at least 2 sec
2. FADEC light……Extinguished Continue Flight Normally
3. FADEC light……...Steady Illuminated
4. Check……Available Engine Power
5. Expect Engine Failure
6. Flight can be continued, However

a. Select Speed to avoid Eng Over Speed
b. Land as soon as possible

7. In case a tank has become empty

a. Fuel selector……..… BOTH
b. Electrical Fuel Pump……ON
c. Select Speed to avoid Eng Over Speed
d. Check Engine parameters, Operate Throttle
e. If the engine acts normally, continue flight and land as soon as practical

## ABONORMAL ENGINE BEHAVIOR

1. Select Speed to avoid Eng Over Speed
2. “Force-B” switch, Select to B-FADEC
3. Flight can be continued, However Land as soon as practical

## ENGINE SHUTDOWN IN FLIGHT

1. Select Airspeed to avoid Engine Overspeed
2. Glide……..65 Kts Recommended
3. Engine Master……OFF
4. Fuel Shut-off Valve……...CLOSED
5. Electrical Fuel Pump……OFF
6. If Reqd to Stop Prop….Speed below 55 Kts
7. Once Prop Stops……...Glide at 65 Kts

# CESSNA -172R THIELERT : PRE FLIGHT CHECKLIST

**EMERGENCY LANDING with Eng out**

1. Airspeed…65 / 60 Kts (flaps up / Down)
2. Fuel Shut-off Valve……CLOSED
3. Engine Master……OFF
4. Flaps……...AS REQUIRED
5. Alt & Batt……OFF
6. Cabin Doors-Unlock Before Touch-Down
7. Touch-down – slightly nose up attitude
8. Brake……..FIRMLY

**ALT WX LIGHT ON OR AMPS -VE > 5 MIN, ENGINE OPERATION NORMAL**

1. Amps……..CHECK
2. Alternator……CHECK ON
3. Battery……..CHECK ON
4. Elect load REDUCE IMMEDIATELY
5. Land as soon as practical

**TOTAL ELECTRICAL FAILURE**

1. Alternator……..CHECK ON
2. Battery……CHECK ON
3. Land as soon as possible
4. Be prepared for an emergency landing
5. Expect an engine failure

**ROUGH ENGINE OR LOSS OF POWER**

1. Thrust Lever……..FULL FORWARD
2. Fuel Selector……..BOTH
3. Electrical Fuel Pump……...ON
4. Airspeed……..65-85 Kts, ( max100 Kts )
5. Engine Parameters……...CHECK
6. If normal engine power not achieved : Land as soon as possible

**LIGHT "WATER LEVEL" ON**

1. Increase airspeed and reduce power
2. "CT" check and observe
3. "OT" check and observe
4. If CT and/or OT rise into yellow or red range, Land as soon as practical

**OIL PRESSURE "OP" LOW (< 2.3 IN CRUISE OR < 1.2 BAR AT IDLE)**

1. Reduce power
2. Check oil temp "OT" : If high or near op limits, Land as soon as possible
   If in a climb, Increase speed, reduce angle of climb
3. If OT approaches red range, Reduce power

**OIL TEMP "OT" TOO HIGH (IN RED)**

1. Increase airspeed and reduce power
2. Check OP: if lower than normal(< 2.3 in cruise or < 1.2 at idle), Land as soon as possible
3. If OP in normal range: Land as soon as practical

**COOLANT TEMP "CT" TOO HIGH (RED)**

1. Increase airspeed and reduce power
2. Cabin Heat……COLD
3. If CT reduces to normal operating range quickly, continue to fly normally and observe CT
4. If CT does not drop, Land as soon as practical

**GEARBOX TEMP "GT" HIGH (RED)**

1. Reduce power 55% - 75%
2. Land as soon as practical

**FUEL TEMP TOO HIGH (RED RANGE)**

1. Switch to fuel tank with lower fuel temp, if this contains sufficient fuel
2. Reduce engine power, if possible
3. If fuel temperature remains in Red, land as soon as possible

**PROPELLER RPM TOO HIGH**

Prop RPM 2400 to 2500 > 10 Sec or > 2500:

1. Reduce power
2. Reduce airspeed below 100 KIAS or as appropriate to prevent propeller overspeed
3. Set power as required to maintain altitude and land as soon as practical
4. If reqd, Climb at 65 Kts, 100% power